



# Howland Hill Outdoor School

## Facility Guide



***“The young people of today are the lawmakers, the scientists, the industrialists, the conservationists, the cattlemen, and the lumbermen of tomorrow. It is vitally important that they learn today the values of the national parks, and the principles underlying their preservation. For they will have the say tomorrow as to what becomes of these properties of the people.”***

Newton Bishop Drury

Secretary, Save-the-Redwoods League 1919-1940

Director, National Park Service, 1940-1951

Chief, California Division of Beaches and Parks 1952-1959

President, Save the Redwoods League, 1971-1978

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# Introduction

Howland Hill Outdoor School (HHOS) is an outdoor education facility within the boundaries of Redwood National and State Parks. It is a place where students can leave their traditional classrooms and safely learn in the natural environment. This guide will sow the seeds for a successful trip to the outdoor school. While at HHOS, students and teachers can gain new experiences in living and working together. Trust and cooperation blossom at the outdoor school and then grow further in the classroom, providing productive and satisfying experiences for all involved. It is the parks' education goal **to provide Standards- and Benchmark-based educational opportunities for students and teachers in northern California and southern Oregon; to develop intellectual and emotional connections to the natural and cultural resources within the redwood region; and to promote an understanding of park stewardship values, resource management practices, and land management issues.**

Redwood National and State Parks are proud to offer this educational experience to you and your students. The parks' overall mission is **to preserve, protect, and make available to all people, for their inspiration, enjoyment, and education, the ancient forests, scenic coastlines, prairies and streams, and their associated natural and cultural values, which define this World Heritage Site; and to help people forge emotional, intellectual, and recreational ties to these parks.** Redwood National and State Parks sincerely thank you for providing HHOS staff with the opportunities to introduce and share this common heritage.

Feel free to make this guide a genuine workbook: fill the margins and empty spaces with notes. Also, please let the HHOS staff know how this guide worked for you, and how it could be improved.



*Fondly remembered by decades of teachers, parents, and students, the “Old Lodge” gave way in March 2012 to a state-of-the-art, solar-and-propane powered classroom building, the “New Lodge”*



# *How the Outdoor School Came To Be*

Eli and Mary Howland were on route to Oregon from Ohio in September of 1866 when they stopped in Crescent City to await the birth of their sixth child. By the time Robert Howland came into the world, the family had decided to settle in northern California instead, and bought a ranch in Elk Valley, not far from Crescent City. Today Howland Hill Outdoor School is located on the prominent hill that still bears the pioneer's name.

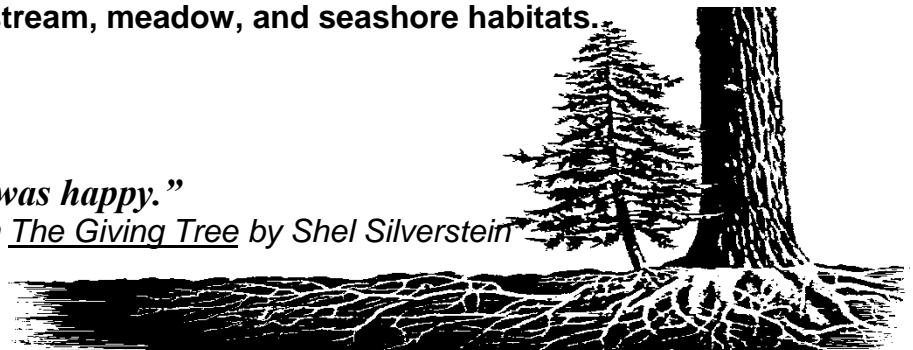
In 1978, all that existed on the future HHOS site was a run-down cabin and fencing from an abandoned early-1900s sheep ranch, in open grassland surrounded by third-growth redwood forest. Redwood National Park's existing "Environmental Living Program" needed a site in which to grow and the hilltop was perfect. Preparation of the site began in February 1979, funded by the National Park Service. California Employment and Training Act (CETA) employees, the California Conservation Corps (CCC), the Youth Conservation Corps (YCC), and volunteers began construction of five temporary A-frame sleeping shelters. Old farmstead debris was cleared out, the first water system and an outdoor cooking area built, the single run-down cabin converted into a larger building to serve as a central classroom Lodge, and composting toilets installed! Today the facility continues to improve: the A-frames replaced with spacious cabins, the kitchen enclosed and upgraded to commercial-grade status, the water system upgraded and flushing toilets installed. The long-awaited replacement of the original Lodge became a reality in Spring 2012, with a new propane- and solar- powered structure designed for environmental learning.

Since those early days, HHOS has gone through quite a metamorphosis! Future developments at HHOS depend on the cooperative effort of teachers, parents, alumni, students, park staff, and other partners working together. As HHOS evolves, its humble beginnings and the cooperation of the educational community that turned a dream into reality will be remembered by generations.

The parks' environmental education curriculum has changed throughout the years as well. The first program focused on the concept of "living history," with portrayed "mountain men" explorers, at the Nickel Creek campground south of Crescent City. The move to Howland Hill provided both a more secluded site and more in-depth programs. Education curriculum in the parks has always been National Education Standards-based, providing teachers and leaders with opportunities for field programs extended from their in-class studies. Most of the participants at HHOS come from Del Norte County, but several hundred students from other areas also use the site each year. New programs will continue to sprout at the site, and be constantly reviewed and revised. However, **the basic core of the curriculum for any group using Howland Hill Outdoor School will be stewardship of Redwood National and State Parks: its unique ecosystems and the natural and cultural values associated with its forest, stream, meadow, and seashore habitats.**

*"And the tree was happy."*

*from The Giving Tree by Shel Silverstein*



## **Redwood National & State Parks**

**Our common mission is to preserve and make available to all people, for their inspiration, enjoyment, and education: the ancient forests, scenic coastlines, prairies, streams, and their associated natural and cultural values which define this World Heritage Site; and to help people forge emotional, intellectual, and recreational ties to these parks.**

Curriculum developed for education programs within Redwood National and State Parks must reflect the parks' primary interpretive themes, listed below. At the same time, programs must meet individual groups' goals, as well as National and State Education Standards as appropriate. Imagination and creative planning accomplish these goals.



The ancient coast redwood ecosystem preserved in Redwood National and State Parks protects some of the world's most majestic forests and is home to a unique community of plants and animals.



The mosaic of habitats within Redwood National and State Parks, which includes old-growth forest, prairies, oak woodlands, and coastal and near-shore marine environments, are increasingly important refugia for a number of rare and endangered species.



Steep, highly erodable landscapes, heavy rainfall, powerful rivers, and frequent earthquakes are all related to local geologic forces generated near the junction of the three tectonic plates of the earth's crust that underlie the region.



The Yurok, Tolowa, Hupa, and Chilula peoples who have lived here for thousands of years, and whose aboriginal lands are now within park boundaries, continue many aspects of their traditional life ways.



Attracted by the diverse natural resources of the northern California coast, residents developed a number of industries including mining, ranching, fishing, and logging.



Redwood National and State Parks preserve the living legacy of 19th and 20th century conservation efforts, which set aside diminishing redwood forests, helped spur a worldwide environmental movement, and provide a testing ground for cooperative management and large-scale restoration of severely impacted forest lands.

# *Outdoor Teaching/Learning in the Parks*

Outside of the controlled environment of the classroom, always be ready to “plan on the unplanned”! Out on the trail, a sudden hummingbird display or startled garter snake can steal the spotlight from any set lesson plan. Rather than an unwelcome disruption, the surprise occurrence becomes a day's most wonderful resource, priming students' curiosity and excitement. We try always to make the most of it by relating it to other observations or to a broader concept.

## ***First and foremost = Safety***

Safety is essential to the continuation of HHOS programs. Teachers should first be familiar with their school/district's safety policies for field trips. HHOS requires a minimum of one adult counselor/chaperone (other than the teacher) for every 10 students. Overnight school groups will need two adults for each cabin. All rangers are trained in First Aid and CPR techniques, and activities are readily adjusted to meet safety concerns.

## ***First and second-most = Protect the habitat***

Outdoor education, like any other human activity, has an impact on the environment. In addition to curriculum-based lessons, we teach students outdoor manners, trail courtesy, and how to live lightly on the earth. Whenever possible, we teach smaller groups at study sites instead of entire classes at one time, and always encourage awareness to the sensitivity of the natural world.



***Bird on the brink, you are the link!***

*(see Appendix for marbled murrelet information and printable coloring page)*



## *"How Do I Plan This?"*

The HHOS reservation year is divided into Fall and Spring semesters. "Fall" is mid-September to the end of October. "Spring" is mid-April through the end of May.

**Reservations for an *upcoming school year* (September-May) begin May 1<sup>st</sup> on a first-come/first-serve basis. Reservation requests are only accepted via email using the forms available on the [website](#).** A minimum lead-time of one month is needed for reservations! Site tours for orientation and planning purposes are available for new users, just call or email to schedule a date.

National and State Education Standards-based environmental education at HHOS is a cooperative effort between the classroom teacher/leader, and trained national and state park rangers. All work together throughout the planning phase and during instruction. After registration is confirmed, an appropriate grade-level, Standards-based program outline is presented to the teachers/leaders. With the assistance of the Lead Ranger, teachers/leaders then fine-tune program activities so they align with their classroom curriculum. HHOS programs should not be "stand-alone." Rather, teachers are expected to prepare their students in the classroom prior to the visit, then follow up with activities related to their experiences to make the HHOS visit more meaningful to students. Because of this important educational requirement, HHOS is not available to all groups. Facility use by groups who prefer to do their own stand-alone programs (Scout groups, for example) is considered a rental and a different use fee applies (Page 15-16). Groups desiring facilities for personal events such as weddings, reunions, birthdays, and/or other personal or recreation-based activities need to seek an alternate facility.

It is the responsibility of the teacher/leader to oversee all phases of the visit. Responsibilities include arranging reservations and visiting the site prior to the scheduled use, and doing preliminary and follow-up work in the classroom. On overnight visits, duties also include supervising the parents/counselors, coordinating kitchen activities; providing for the safety and discipline of students; planning for and implementing meals and evening activities; overseeing facility clean-up before leaving; and keeping the park rangers notified of any problems, hazards, or questions that may arise during their stay.

In order to allow the maximum number of students an opportunity to experience HHOS in any given school year, groups/classes are limited to one visit (1-3 days) per school year.



*Restroom building*

# Pre- and Post-Visit Activities

The success of students' total experience at HHOS relies on the preliminary and follow-up activities implemented in the classroom.

Students who have had a preliminary introduction to the site and its rules, and introductory activities on the concepts and themes they will explore in the parks, will have an enhanced understanding of the HHOS experience. It is also important for the students to reflect on their visit by engaging in activities that reinforce concepts and themes studied at the Outdoor School. Students should be encouraged to communicate concepts learned by writing, acting, singing, drawing, or speaking. Some of the programs used at the outdoor school suggest follow-up activities and provide journals for the students. These can be additions to the classroom curriculum, and can help meet teachers' assessment goals.

## ...and Follow-Up Evaluations

**Following the visit, teachers will complete a Program/Facility evaluation form.** This input is invaluable to the continued growth and improvement of Howland Hill Outdoor School. The Rangers take these evaluations very seriously, and have implemented many changes to HHOS that teachers have suggested on past evaluations. For example, HHOS would not have such a nice kitchen and restrooms if not from users' past input.

*Thank you for your continued support!*



*"There are only two lasting bequests we can hope to give our children. One is roots; the other, wings."*

Hodding Carter

## *Need Preparation Help?*



*The campfire area*

On the next page is a teacher's check list. The list might seem long but it's not complicated. To make it easier and more fun, we recommend integrating it into the classroom curriculum as a preliminary program. Introduce the themes or topics of what will be explored during the visit, and involve the students in the planning process wherever possible. The better the plan, the more all will learn and benefit from your visit to Redwood National and State Parks' Howland Hill Outdoor School.

***Remember there are people always available to help you!***

For all reservations and program-related questions) call the North District  
Education Specialist  
(707) 465-7396 or send an [email](#)


### **Check Out Our Website**

[Redwood National and State Parks](#)

[Howland Hill Outdoor Schools Webpage](#)



## Check List

1. ☐ Make reservations as early as possible starting May 1<sup>st</sup> for the upcoming school year; call the North District Education Specialist at 707-465-7396 or send an [email](#). The Use Agreement (see following pages) and bill for applicable fees will be mailed no later than one month before your visit, with all fees due two weeks prior to your visit.
2. ☐ Begin financial and meal planning (see Page 9-11).
3. ☐ If a first-time user of HHOS, make arrangements for an on-site orientation visit, particularly if overnighting. Include parents/counselors in the orientation as well.
4. ☐ At least two weeks prior to the visit, call or meet with the HHOS Lead Ranger (if they haven't called first!). Review the proposed daily schedule/lesson plan and both the ranger-led and planned independent activities (campfires, chores, free time, meal prep, etc.) if overnighting.
5. ☐ Make transportation arrangements. This includes the bus, separate vehicles for gear, etc. **To bring a large bus past the parking lot requires prior arrangements through the Education Specialist.** Overnighting? Plan on transporting gear in a single vehicle or in a trailer. Keep private vehicles to a minimum; on-site parking space is very limited.
6. ☐ **Check with any school personnel who need to know!** (For example: your Grant Administrator, Principal, etc.)
7. ☐ Arrange for payment of the **Use Fee** (see reverse side of appropriate Use Agreement, Page 14 or 16). The Invoice will be provided with the original Use Agreement.
8. ☐ Arrange for qualified supervision: **one responsible adult for every ten students.** This number can include the teacher or main leader, but not park personnel. At least one adult must be with each study group at all times. For overnights: two adults are needed for each cabin, and one adult designated as Kitchen Coordinator .
9. ☐ Make sure each student has a signed parental permission slip.
10. ☐ Make lists of group happenings: roll call (many groups assign each child a number), cabin assignments, study groups, and chores.
11. ☐ Prepare in class: do preliminary activities, review rules and what to bring, **make name tags**, show pictures from previous trips, visit the parks' web site, etc.
12. ☐ Come up to the Hill and LEARN! 😊
13. ☐ **Back at school:** Fill out the facility/program evaluation and mail it in. Carry out follow-up activities 



Office Use:

Fee:



USE AGREEMENT

Curriculum-Based Programs



HOWLAND HILL OUTDOOR SCHOOL

Redwood National and State Parks

Please read all information thoroughly, fill in all open blanks, sign, make a copy for your records, and return this original with your fee payment AS SOON AS POSSIBLE, and **no later than one week prior to the scheduled date of your visit**.

Date(s) of visit:

Name(s) of teacher/leaders:

Organization/Group:

Phone:

Mailing Address:

E-Mail Address:

# Students (45 max):

Student Transportation:

Grade Level(s):

# of Adults:

bus

/ # of cars:

\*\*\*\*\*

Following is the basic Agreement for use of Redwood National and State Parks' (RNSP) Howland Hill Outdoor School (HHOS) in implementing California and Oregon Education Standards-based programs.  
**RNSP reserves the right to cancel, at any time, groups failing to comply with this Agreement**

- Established RNSP regulations will be followed to protect and preserve the natural environment; there will be no plant gathering or feeding of wildlife of any kind. Standard California and Oregon school policies will also be followed. Only qualified service animals will be allowed on site; no personal pets.
- The group leader/teacher designated above will be on-site and responsible for the actions of the group at all times. If a leader must leave the group, a substitute leader will be assigned. The group leader agrees to support HHOS staff in maintaining school discipline standards:
  - "Three Strikes Rule"
  - 1<sup>st</sup> incident: student will receive a verbal warning
  - 2<sup>nd</sup> incident: student will given 'time out' with adult leader
  - 3<sup>rd</sup> incident: student will be removed from the activity; after discussion with the teacher, a decision will be made whether the individual student will be returned to school.
- A ratio of one qualified leader/adult to every 10 students will be maintained at all times. Accompanying adults will assist with whole group's educational experience, and adhere to all related requests and guidelines. *Arrangements will be made for younger siblings not part of the class to be left with other caregivers at home.*
- **Security:** The school gate off Howland Hill Road will be kept **closed at all times**, and locked overnight. All accompanying adults will wear RNSP-supplied security lanyards for visual identification.
- One personal vehicle will accompany group busses and be available on-site at all times for emergency use. Plans will be made for **no more than three vehicles** to be parked at the school site; all other vehicles will be parked in the main lot, ¼ mile from the site.
- All accidents or unusual happenings will be reported to the site ranger as soon as possible.
- Kitchen use will comply with State and National Health Codes, as detailed in the kitchen's Standard Operating Procedures in the HHOS Facility Guide



[HHOS Use Agreement (continued):

- **To avoid attracting or encouraging confrontations with wild animals:**
  - ✓ Garbage cans will not be over-filled; lids must close and latch completely. If all cans become full, all garbage beyond the capacity of the cans, and any strong –smelling garbage will be taken with the group on leaving.
  - ✓ All food and other attractants will be properly stored in the kitchen or in vehicles; no food will be allowed in sleeping cabins
  - ✓ All facility doors will be kept closed at all times.
  - ✓ Group snacks will be individually “contained” and non-crumbling (cheese, soft granola bars, or fruit rollups for example) to reduce food litter on the ground.
- **Pre-cycle, reduce, re-use, and THEN recycle!** Washable dishes, cups, and utensils are provided for group use while on site. Please: no “disposable” paper or Styrofoam cups, plastic plates, or utensils. One name-labeled water bottle per student; bottles can be refilled onsite as needed.
- **Check-out time for overnight groups:** no later than 3:30<sup>PM</sup> after the site ranger has completed check-out inspection of facilities. Groups will be responsible for the safe return of all loaned park property and keys to site ranger during checkout.

\*\*\*\*\*

**HHOS Curriculum-Based Program Fees, 2016 School Year**

1-35 students..... \$50.00 per day

36-45 students..... \$100.00 per day

**Refund Policy:** You are entitled to 100% refund of your paid fee if you cancel two weeks prior to your visit, or if the park cancels for any reason. If you need to cancel within two weeks of your visit, please submit your refund request in writing for a 50% refund of your paid fees.

PLEASE READ, DATE, and SIGN:

I (we) have received on-site orientation to HHOS, or in lieu of on-site orientation, have read and understand the HHOS Facility Guide, either online at <http://www.nps.gov/redw/forteachers/howland-hill-outdoor-school.htm> or a provided hard copy.

I (we) have fully read and understand this Agreement, and agree to be responsible for the actions of our group while on site. I (we) understand that failure to comply with the above Use Agreement can affect my (our) group’s future use of the facility.

Signature(s) of leader(s):

Date:

X

X

~~~~~

**\*Mail payment (payable to Redwood Parks Association) and this signed Agreement to**  
**Redwood National and State Parks**  
**ATTN: Beth Hartsig**  
**1111 Second Street**  
**Crescent City, CA 95531**

Office Use:

Fee:



RENTAL USE AGREEMENT  
HOWLAND HILL OUTDOOR SCHOOL  
Redwood National and State Parks

Thank you for requesting Howland Hill Outdoor School for your group’s visit to Redwood National and State Parks (RNSP). Please read all following information thoroughly, fill in all open blanks, sign, make a copy for your records, and return this original with your fee payment **AS SOON AS POSSIBLE**. The site ranger will contact you prior to your arrival to schedule any needed facility orientation and to answer any questions.

Date(s):

Arrival time: \_\_\_\_\_ Departure time: \_\_\_\_\_

Name(s) of Teacher/Leaders:

Phone: \_\_\_\_\_

Organization/Group:

Mailing Address:

E-Mail Address:

Total # people: \_\_\_\_\_: # Students \_\_\_\_\_ # Adults: \_\_\_\_\_

Transportation: \_\_\_\_\_ bus: \_\_\_\_\_ # of cars: \_\_\_\_\_

\*\*\*\*\*

The following is the basic Agreement for use of Howland Hill Outdoor School (HHOS) for natural resource-related educational programs. This signed Agreement and payment of applicable fees are due no later than two weeks prior to arrival unless other arrangements have been made. A copy of your agenda/school curriculum as it relates to both park resources and National Education Standards must be included.

**\*\*RNSP reserves the right to cancel, at any time, groups failing to comply with this Agreement.\*\***

- Established National and State Parks regulations will be followed to protect and preserve the natural environment. Plant gathering or feeding of wildlife is not allowed at any time. Only qualified service animals are allowed on site; no personal pets. Quiet time is enforced park-wide 10:00 p.m. to 6:00 p.m.
- Ranger-provided facility orientation will be attended by all users, group or individual late-comers, on arrival,
- The group leader/teacher designated above will be on site and responsible for the actions of the group at all times. If the leader must leave the group, a substitute leader will be assigned.
- A ratio of one qualified leader/adult to every 10 students will be maintained at all times. Adults are expected to assist with the group’s educational experience, and abide by the same rules and regulations as students. Students will not be permitted to wander off by themselves at any time.
- The school gate off Howland Hill Road will be kept **CLOSED at all times**, and locked overnight. Two sets of keys will be issued to overnight group leaders at check-in for their use.
- Each group will have one personal vehicle on-site at all times for emergency use. No more than **three vehicles** are allowed at the immediate school site; extra vehicles must be parked in the main lot, ¼ mile from the site. Prior permission is required for any busses or extra vehicles past the main parking lot.
- Any and all accidents or unusual happenings will be reported to a ranger as soon as possible by calling **Northern Communications, 916-358-1300**
- Only provided cabins will be used for sleeping shelters. No combustible items will be permitted in the cabins: matches, candles, lanterns, or anything that requires a flame. Tents may be set up only with prior permission if extra space is needed, and only in designated areas.

- Kitchen use will comply with State and National Health Codes, and Standard Operating Procedures as provided on the attached sheet. Meals will be planned for “family-style” eating.

**- To avoid attracting, or encouraging confrontations with, wild animals:**

- ✓ Garbage cans must not be over-filled; lids must close and latch completely. If all cans become full, all garbage beyond the capacity of the cans, and any strong-smelling refuse must be taken with the group on leaving.
- ✓ All food and other attractants must be properly stored in the kitchen or in vehicles; no food is allowed in sleeping cabins (water bottles are OK).
- ✓ All facility doors must be kept closed at all times.
- ✓ Group snacks should be individually “contained” and non-crumbling (such as string cheese, soft granola bars, fruit rollups, etc.).

- **Pre-cycle, reduce, re-use, and THEN recycle!** HHOS provides washable dishes, cups, and utensils for groups to use and wash while on site. Please: no “disposable” paper or Styrofoam cups, plastic plates, or utensils, or bulk bottled water! Personal water bottles can be refilled onsite as needed.

- For overnight groups, check-out time is no later than 3:30 p.m., and only after the site Ranger has conducted a check-out inspection of facilities. Groups will return all loaned park property and keys to site ranger during checkout.

\*\*\*\*\*

## HHOS Rental Fees

1-30 people..... \$100.00 per day

31-60 people..... \$200.00 per day

**Refund Policy:** You are entitled to 100% refund of your paid fee if you cancel two weeks prior to your visit, or if the park cancels for any reason. If you need to cancel within two weeks of your visit, please submit your refund request in writing for a 50% refund of your paid fee.

**\*Mail payment (payable to Redwood Parks Association) and this signed Reservation Form to**  
**Redwood National and State Parks**  
**ATTN: Beth Hartsig**  
**1111 Second Street**  
**Crescent City, CA 95531**

PLEASE READ, DATE, and SIGN:

**I / we have received on-site orientation to HHOS, or in lieu of on-site orientation, have read the HHOS Facility Guide, either online at <http://www.nps.gov/redw/forteachers/howland-hill-outdoor-school.htm>, or a provided hard copy.**

**I / we have also fully read this Agreement, understand what is required to use HHOS, and agree to be responsible for the actions of our group while on site. I / we understand that failure to comply with the above Use Agreement can affect my/our groups’ future use of the facility.**

**Signature(s) of leader(s):**

**Date:**

**X**

**X**

# Facilities Overview

We highly recommend a guided visit to HHOS prior to coming the first time with your students, to get oriented to the facility, and to answer any questions you (or parents or students) might have. If a site visit is not possible, here are a few overviews:

## COOKING and EATING

The HHOS kitchen is fully compliant with state and federal health and safety regulations, with stainless steel food prep areas, a 3-sink washing station, propane refrigerator, and 6-burner propane stove. There is no oven. An outdoor propane grill provides additional options (See kitchen interior photo on Page 23 and in-depth information on Pages 23 and 33). The covered outdoor dining area doubles as a classroom, and tends to become the school's "social center." It can be enclosed in inclement weather (See dining area photo on Page 22).

## SLEEPING

Four spacious student sleeping cabins--Tan Oak, Alder, Redwood, and Hemlock--nestle in the deep-shaded forest on top of Howland Hill. Each shelter can accommodate 10-12 students and all their Stuff. A fifth cabin, Spruce, is also available as a wheelchair-accessible sleeping shelter, or it can be utilized by the group's cook or teacher. Cabin windows are unscreened and open directly onto the forest, but are high enough off the ground to provide protection from animal intruders except those that can fly. Foam sleeping pads are provided. *Cabins are not heated!* For an exterior cabin photo see Page 25; and for cabin locations, the area maps in the Appendix, Pages 45, 46.



## STUDYING

Since HHOS is an outdoor school, all classes happen out-of-doors! However, inclement weather does force groups inside at times. The solar- and propane-powered "New Lodge" (right) debuted in 2012, replacing the "Old Lodge" that served as the main indoor classroom for two decades. Fir Cabin, renovated in 2008, also serves as a small meeting room and indoor classroom with propane lights and heat.



## "RESTING"

Two buildings provide ADA-compliant toilet facilities. One building contains four individual restrooms with flush toilets and hand-washing sinks; one unit also houses an emergency shower. The second restroom building is an environmental waste station containing two composting toilets requiring no water; see "The Clivus Toilet" page in the Appendix for more information.

# Living in “Off-the-Grid” Land

Howland Hill Outdoor School is proudly “off the grid.” The facility is not connected to public utilities, other than delivered propane. Keep this in mind when planning!



**Water** – All water is pumped directly out of the ground to the top of the hill, then gravity-fed into all faucets, toilets, and the kitchen hot water heater. The water is fully potable, **and must be conscientiously conserved:** kitchen sinks need only be filled half-way, and faucets should not just run during food prep. Because of the low water pressure, it is critical also that toilets not be over-burdened with excessive paper.



**Heat** – All campfire wood is provided; there should be NO cutting or collecting of forest wood for fires or cooking sticks. An ax is available for splitting wood into smaller pieces. Under no circumstances are students permitted to split wood! Groups may want to bring their own kindling and paper for easier fire starting.

{A propane space heater may be available for use in the dining area. For safe heater operation all overnight group leaders will receive full instructions from the Lead Ranger before use. No students will be permitted to operate the heaters.}



**Gas** – All Kitchen lights, the refrigerator, the cook stove, and the water heater, as well as Fir Meeting Room heat stove and lights, and the Lodge heating stove are propane- powered. Overnight group leaders will receive instructions on their responsibilities for proper and safe operation of the stoves and lights as part of their orientation.

- **Wall Lights:** Mantles are extremely fragile (and expensive); the filaments should never be touched. The Lead Ranger will replace them if needed.
- **Cooking and Heating Propane Stoves:** The Ranger will turn on the pilot lights for each group use, and turn them off after the group leaves; no one other than a ranger should adjust any main gas valves.
- **Water heater and refrigerator:** These are pre-set and must not be adjusted.

**Telephones (or lack thereof!)** Cellular phones have particular challenges in the forest, but they do work. HHOS’ best transmission/reception spots are the gravel area in front of the kitchen, on the entrance road by the water tanks.



## *Equipment Available to Groups*

All program materials are transported to the site specifically for each group, according to their curriculum needs. Basic supplies such as scissors, tape, crayons, glue, pencils, paper, etc. are always available, and stored in the Lodge

**RENTAL GROUPS:** If requested at least two weeks in advance some items may be available for rental group use



# Rules and Regulations



## Use of Park Facilities:

HHOS is primarily for curriculum-based, educational purposes. Other uses may be accommodated, depending on staff availability. The land and the buildings at the site are the property of the U.S. Government. For the safety and benefit of everyone as well as for the environment, groups using HHOS must follow both National Park Service (NPS) and site regulations. Please review the information on this page, on the Use Agreement Form, and in the Ranger Aide Guide, and share it with all leaders and students before arriving at HHOS.

- For student security, all adults accompanying registered groups will wear provided identification lanyards. Law enforcement personnel will be notified of any adult on-site not conforming to security measures.
- Only officially-trained assist animals are allowed on the site. Please notify the Education Specialist prior to your visit if this will be applicable to your group.
- Fires are permitted in designated areas only. No gathering of forest wood for fires or cooking sticks; campfire wood is provided. Only adults may use axes, splitting mauls, or matches, and not around students.
- Willful destruction or defacing of buildings or other park property is considered a criminal act and subject to prosecution.
- All plants, animals, and geological and archaeological objects found within the parks are under protection of the NPS and the California Department of Parks and Recreation.
- No firearms or other weapons are allowed on the school site.
- Every student must be with a partner and/or a qualified group leader at all times.
- Shoes must be worn at all times (cultural dance demonstrations excepted).
- Quiet hours will be maintained from 10:00 p.m. until 6:00 a.m.
- The facility gate on Howland Hill Road must remain closed at all times and locked at night.
- Smoking is allowed only on the entrance road by the campfire pit or in the smoker's personal vehicle, and **NEVER** in the presence of students.
- Provided toilet facilities must be used while on site. When the group is on field studies away from site, proper and safe field sanitation techniques will be taught and used. When this is necessary, each child will have a partner who will "stand guard" for wildlife (and other students!)
- Overnight trailers and/or tents require prior permission from the Education Specialist.

# *Supervision and Discipline Policies*

Good planning and discipline promote safety as well as an equal opportunity for all students to learn in a non-threatening outdoor environment. The classroom teacher has the primary responsibility for the discipline of their students. During field studies, the rangers share the responsibility with the teacher and adult chaperones.

## **Standards**

Teachers should review expected behaviors (detailed in the signed Agreement) with their class before arrival. At HHOS, the staff follows the “Three Strikes” Rule:

**1<sup>st</sup> incident = Strike 1:** Student will be given a verbal warning

**2<sup>nd</sup> incident = Strike 2:** Student will be given second warning, and teacher notice

**3<sup>rd</sup> incident = Strike 3:** Student will be asked to leave the activity, serving a “Time Out” with the teacher. The student, teacher, and the ranger if appropriate, will discuss the incident, and review the student’s choices, and consequences.

Ultimately, teachers will make arrangements for the student to be returned to the school if necessary.

**Demeaning punishment, whether physical or verbal, is never appropriate.**

## **Grievous or criminal behavior**

Behavior that endangers the safety of others; involves the malicious destruction of wildlife, animal homes, park or fellow students’ property; or results in intentional bodily injury may result in the responsible student(s) immediately being sent home. Teachers will need alternate transportation plans should such situations arise.

## **“Ranger Aides”**

Adult chaperones are considered “Ranger Aides” and are an important part of HHOS programs. They are expected to participate in all activities with the students, refrain from pursuing personal agendas, and be good role models. Teachers will be provided Ranger Aide Guides to distribute to their adult chaperones, detailing expectations, responsibilities, facility information, and student behavior/safety concerns. This pamphlet is available in the Appendix, Pages 41-42, or online at <http://www.nps.gov/redw/forteachers/howland-hill-outdoor-school.htm>.

# **Money Matters**

Money and meals both require good planning when considering your trip to Howland Hill Outdoor School. Planned wisely, expenses can be kept to a minimum.

## Group costs consist of:

- The Use Fee      Curriculum-based
- Rental
- Transportation Expenses
- Food

1. **The Use Fee** helps defray the operation and maintenance costs of HHOS. Each group receives their Use Agreement and Invoice at least one month prior to their scheduled date; the fee is due two weeks prior to arrival. ***(Please see the Use Agreements on Pages 13 or 15 for applicable fees and policies.)***
2. **Transportation expenses** will vary by group. Some grants for bus transportation may be available through your school district or through the Save the Redwoods League (SLR). Contact the League through their website: [www.savetheredwoods.org](http://www.savetheredwoods.org), and link to their education page. SLR grant applications for a school year beginning in September are usually due in late June of that year. Other funding sources may be through the California Regional Environmental Education Community (CREEC), [www.creec.org/regional](http://www.creec.org/regional). Some groups rely solely on personal vehicles for transportation. Please carpool to keep the numbers of personal vehicles to a minimum, and make sure all drivers understand how to get to HHOS, how to shut the gate, and where to park. Three vehicles can be kept on site; all others must be parked in the lot ¼ mile from the site. (See Page 24 and the Appendix maps).
3. **Food** costs usually average \$5-\$15 per person per day for overnight stays. Some groups have softened the cost by asking for money from parents to buy meal items, by requesting school lunch support, by grants, and even by asking grocery stores for donations. See Page 23 for suggestions for meal planning.



*Covered dining/classroom area  
adjacent to the kitchen*



# Meals and all that!



## Pre-cycle, reduce, re-use, and recycle!

The parks are great places to learn recycling by experience. HHOS provides washable dishes, cups, and utensils for your group to use and wash while on site. Please do not bring single-use paper plates, Styrofoam cups, plastic utensils etc. Also, **please provide one name-labeled water bottle per student**; they can refill it as needed.

### Food, Glorious Food!

**Day-trippers:** Because of time factors, lunches should be pre-made: prepared at home or by the school. If snacks are in the plan, the teacher should provide the same snack for all, preferably something non-crumbly (string cheese, soft granola bars, or fruit roll-ups for example) to help avoid attracting critters such as crows and jays.

**Overnighters:** HHOS follows the same food practices as public schools. **California health regulations do not allow food to be prepared at home and reheated.** Meals should be planned, prepared, and served buffet- or family-style. **No “potluck” meals.**

Some suggestions:

**Breakfast:** Cereal, hot or cold, is easiest; hot beverages (tea, cocoa); adventurous groups do scrambled eggs, build-your-own egg burritos, pancakes, etc.

**Lunch:** Day 1: Most groups bring their own pre-packed lunches from home or school, well-labeled, and packed separately for easy distribution.  
Day 2 lunches are best made fresh at HHOS that morning, or ordered/picked up from a commercial kitchen.

**Dinner:** Limited only to the oven-less imagination and effort! Spaghetti is always popular, as are make-it-yourself burritos, tacos, etc. Be creative and be healthful--well-fed students learn better!



Kitchen interior



### EXTRAS YOU MIGHT BRING

- \* Dish towels
- \* Extra hot pads/pot holders
- \* Dry newspaper & kindling (for the campfire)
- \* Wooden matches and/or a lighter
- \* Coolers with food ice-packed (limited fridge space )
- \* Roasting sticks/forks for campfire marshmallows, to be taken home  
(Used ones cannot be kept, and you cannot cut your own)
- \* Any “specialty” cookware? (HHOS has most of what you would need, just ask!)
- \*\* **Good coffee!** (Some grownups REALLY need this in the morning!)



# "How Do We Get Up There?"



(N41°45.266' W124°07.780')

Visitors searching for Howland Hill Outdoor School should look first in the Milky Way Galaxy for planet Earth, on the North American continent, in the United States of America, the State of California, Redwood National and State Parks, and Crescent City. Outside of the space ship, the easiest automobile route is from Highway 101 south of Crescent City. Turn onto Elk Valley Road, travel one mile, then bear right onto Howland Hill Road. The white access gate to HHOS will be 2.5 miles from the Elk Valley Rd./Howland Hill Rd. intersection, about .25 mile beyond the paved section, on your right side at the summit. (See maps on page 43)

A ranger will ensure the gate is unlocked (*but closed*) for the arriving group. For access, **lift the pin through the gate tongue that is holding it closed, open the gate, drive through, and CLOSE THE GATE AND REPLACE THE PIN.** For group safety, **the gate must not be left open at any time, and must be closed and locked overnight.**

The main parking lot is .75 mile beyond the gate, on the right. Parking is limited to this small area; the school site is .25 mile from this parking lot. A Ranger will assist with parking and unloading on arrival. All students and most adults will walk in to the school site from here with the ranger, a distance of from .25 to 1 mile, depending on the program.

Buses are not permitted past the parking lot without prior permission from the Education Specialist. If arriving by bus, school groups must bring a separate private vehicle which will be onsite for emergency transportation use. All students should travel with the group on the bus regardless of whether their adult is driving independently, to ensure they all receive the initial information from the greeting Ranger.

In order to keep the teaching environment as visually uncluttered and natural as possible, no more than three group vehicles may be parked directly onsite. Other vehicles may be driven in initially to unload, then be returned to the parking lot. The ranger will ask that excess on-site vehicles be moved, or they will be removed at the owner's expense. Please make sure all drivers understand this! Dealing with parking issues greatly affects teaching time.

Overnight groups' gear should be transported together in a separate vehicle(s), or in a towed trailer, rather than in individual cars.

# "What Should We Bring?"



## For a Day Visit

- \_\_\_\_\_ layered clothing; long pants; T-shirt; jacket; socks; closed-toed, sturdy walking shoes;  
a change of clothes if getting wet is a possibility
- \_\_\_\_\_ warm hat and gloves
- \_\_\_\_\_ individual refillable water bottle
- \_\_\_\_\_ personal day pack
- \_\_\_\_\_ rain gear, or a large plastic bag
- \_\_\_\_\_ snack, lunch (if requested by teacher)

## For an Overnight

### Keep these things in mind when packing:

- Remember: There is no electricity!
- **Please leave at home:** all personal electronic entertainment devices, student cell phones, toys, siblings, propane hair dryers, any item(s) not regularly allowed in a school setting, or that would otherwise be a distraction in a classroom.
- Personal foods/snacks are not allowed in sleeping cabins (food attracts critters!).
- All personal medicines should be given to the group leader.
- Parents should notify teachers if they are going to visit during their child's time at HHOS. Late arrivals must be provided a copy of the "Park Aide" Guide detailing parent/counselor responsibilities, and follow on-site security procedures.

### ***Please name-label everything!***

#### **Bedding:** *(sleeping pad provided)*

- \_\_\_\_\_ warm sleeping bag,  
or very warm bedroll, pillow

#### **Luggage:**

- \_\_\_\_\_ backpack, stuff sack, big plastic bag, or suitcase
- \_\_\_\_\_ daypack with small water bottle  
that doesn't leak

#### **Food:**

- \_\_\_\_\_ personal lunch (if requested by teacher)
- \_\_\_\_\_ non-crumbly snacks



*Redwood Cabin, one of the four sleeping shelters*

#### **Clothing:** *Layered clothing is best!* **(pack all in one large plastic bag or duffel)**

- \_\_\_\_\_ warm hat (to keep in body heat)
- \_\_\_\_\_ gloves (they do make a difference)
- \_\_\_\_\_ sweater or sweat shirt
- \_\_\_\_\_ warm outer jacket or coat
- \_\_\_\_\_ 2 sets of underclothes (wear one)
- \_\_\_\_\_ 2 pairs of socks (or more)
- \_\_\_\_\_ 2 shirts
- \_\_\_\_\_ 2 pairs of long pants
- \_\_\_\_\_ rain gear (it can rain anytime) .
- \_\_\_\_\_ closed- toe shoes
- \_\_\_\_\_ pajamas

#### **Toilet Articles:** *in zip-lock bag or pouch*

- \_\_\_\_\_ comb or brush
- \_\_\_\_\_ hand towel
- \_\_\_\_\_ toothbrush/paste

#### **Extras:**

- \_\_\_\_\_ flashlight ( & extra batteries)
- \_\_\_\_\_ camera
- \_\_\_\_\_ plastic bag for emergency raincoat

#### **A positive attitude!!**

*(This is a requirement;  
don't leave home without it!)*

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## KINDERGARTEN PROGRAM – Senses

*Redwood National and State Parks is home to different kinds of plants and animals that can be observed and described by using the five senses.*

### California's Next Generation Science Standards: Kindergarten

KLS1: From Molecules to Organisms: Structures and Processes

K-LS1-1 All animals need food in order to live and grow. They obtain their food from plants or from other animals. Plants need water and light to live and grow.

### Common Core State Standards Connections: Kindergarten

ELA/Literacy-

K.MD.A.2 Directly compare two objects with a measurable attribute in common, to see which object has “more of”/”less of” the attribute, and describe the difference.

Focus: Living vs Non-Living, Senses, What is an Animal?

| Time                    |                                                                                                                                                                                                                                     |
|-------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 9:00 a.m.<br>Arrival    | Welcome / Rules and Expectations on Bus                                                                                                                                                                                             |
| 9:15-10:00 a.m.         | <b>Walk Unnature to HHOS</b><br>*Living vs. Non-Living Overview (what living things need to live and grow)<br>*I Spy Activity Living vs. Non-Living<br>*Quiet Walk<br>*Future Tree Portal to School<br><u>*Restroom Break/Snack</u> |
| 10:00-10:30 a.m.        | <b>Study Station1</b> ( 2 groups; 30-minute stations)<br>Group A: How Animals Use Senses/Obstacle Course<br>Group B: The 5 Senses                                                                                                   |
| 10:30-11:00 a.m.        | <b>LUNCH</b> (outdoor eating manners)<br>Quick Recess                                                                                                                                                                               |
| 11:00-11:30 a.m.        | <b>Study Station2</b> ( 2 groups; 30-minute stations)<br>Group A: How Animals Use Senses/Obstacle Course<br>Group B: The 5 Senses                                                                                                   |
| 11:30-11:50 a.m.        | <b>Animal Senses Game</b>                                                                                                                                                                                                           |
| 11:50-12:15 p.m.        | <b>Photo-op Spruce</b> (Thank-you)<br>*Hike out road                                                                                                                                                                                |
| 12:15 p.m.<br>Departure | <b>Bus Away</b>                                                                                                                                                                                                                     |
| Rain Back-up            | <b>Senses:</b> Cabins<br><b>What is an Animal?:</b> Lodge<br><b>Animal Senses Game:</b> Lodge                                                                                                                                       |

## 1<sup>ST</sup> GRADE PROGRAM – Forest Needs

*The forest environments within Redwood National and State Parks are a unique community of plants and animals who meet their needs for food, water, and shelter in different ways.*

### California's Next Generation Science Standards: Grade One

#### LS1.A Structure and Function

All organisms have external parts. Different animals use their body parts in different ways to see, hear, grasp objects, protect themselves, move from place to place, and seek, find, and take in food, water and air. Plants also have different parts (roots, stems, leaves, flowers, fruits) that help them survive and grow

### Common Core State Standards Connections: Grade One

ELA/Literacy-

**W.1.7** Participate in shared research and writing projects (e.g., explore a number of “how-to” books on a given topic and use them to write a sequence of instructions). (1-LS1-1)

Focus: Structure and Function, Animal Parts, Habitat Needs

| Time                      |                                                                                                                                                                                         |
|---------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 9:00-9:15 a.m.<br>Arrival | <b>Welcome / Rules &amp; Expectations on bus</b>                                                                                                                                        |
| 9:15-9:45 a.m.            | <b>Habitat, Structure and Function</b><br>*Ranger Sez (food, water, shelter, space), Hike Unhabitat Trail, Plant and Animal Parts (Structure and Function)                              |
| 9:45-10:00 a.m.           | <b>Unhabitat Trail Bingo</b>                                                                                                                                                            |
| 10:00-10:15 a.m.          | <b>*Restroom Break</b>                                                                                                                                                                  |
| 10:15-11:00 a.m.          | <b>Habitat Program: Slug Life</b><br>*Slug Habitat: Slug Overview, Show Slugs, Dress Up, Slug Rap/Dance<br>*Activity: Slime Trail Obstacle Course<br>*Restroom Break                    |
| 11:00-11:30 a.m.          | <b>LUNCH</b> (outdoor eating manners)<br>*Stump climb (weather dependent)                                                                                                               |
| 11:30-12:45 p.m.          | <b>STUDY STATIONS</b> (2 groups; 35-minute stations)<br><b>(Switch at 12:05)</b><br>A. Chompers (Animal Teeth Program)<br>B. One-Two-Tree (Tree Tag/ID)<br>*Photo-op Spruce (Thank-you) |
| 12:45-1:15 p.m.           | <b>Hike Out</b><br>*Future Tree (See the Future)<br>*Conclusion                                                                                                                         |
| 1:15p.m.<br>Departure     | <b>Bus Away</b>                                                                                                                                                                         |
| <b>Rain Back-up</b>       | <b>Slime Trail: Lodge</b><br><b>Tree ID: Lodge</b>                                                                                                                                      |



## 2nd GRADE PROGRAM – Ecosystem Unity and Diversity

*The ancient coast redwood ecosystem preserved in Redwood National and State Parks protects some of the world's most majestic forests and is home to an interrelated biotic community. The coast redwood, a species that has produced some of the world's tallest individual trees, is well adapted to the environmental conditions of its range.*

### California's Next Generation Science Standards: Grade Two

2-LS2 Ecosystems: Interactions, Energy, and Dynamics

2-LS2-1. Plan and conduct an investigation to determine if plants need sunlight and water to grow.

2-LS4 Biological Evolution: Unity and Diversity

2-LS4-1. Make observations of plants and animals to compare the diversity of life in different habitats.

### Common Core State Standards Connections: Grade Two ELA/Literacy-

W.2.7 Participate in shared research and writing projects (e.g., record science observations). W.2.8

Recall information from experiences or gather information from provided sources to answer a question. (2-LS2-1) (2-LS2-1) (2-LS4-1)

Focus: Laws, Habitat, SLOW, Adaptations, Conservation

| Time                   |                                                                                                                                                                                        |
|------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 9:00 a.m.<br>Arrival   | <b>Welcome / Rules and Expectations on Bus</b>                                                                                                                                         |
| 9:15-9:45 a.m.         | <b>LAWS (Light, Air, Water, Soil)</b><br>*Habitat/LAWS Overview<br>*Laws Hike- 4 Stops Light, Air, Water, Soil (make observations)<br>*Is the Redwood Forest a good habitat for trees? |
| 9:45-10:15 a.m.        | <b>Forest Floor @ Hollow Tree</b><br>*Forest Floor Habitat and Adaptations<br>*Measure and Old Growth Redwood<br>*Restroom Break                                                       |
| 10:15-10:35            | <b>Canopy @ Lodge (20 minute station)</b><br>*Canopy Habitat and Adaptations                                                                                                           |
| 10:35-11:45 a.m.       | <b>Mill Creek Trail Old Growth Hike (1 mile)</b><br>*Layers of an Old Growth Forest (SLOW)<br>*Habitat and Adaptations: Canopy/Forest Floor Viewing<br>*Review (iPad)                  |
| 11:45-12:15 p.m.       | <b>Lunch</b>                                                                                                                                                                           |
| 12:15-12:45 p.m.       | <b>Redwood Survival Game</b><br>*Old Growth versus 2 <sup>nd</sup> Growth (Light, Air, Water Soil)                                                                                     |
| 12:45-1:15 p.m.        | <b>Hike Out</b><br>-Future Tree<br>-Conclusion (Plant the seed for conservation)                                                                                                       |
| 1:15 p.m.<br>Departure | <b>BUS AWAY</b>                                                                                                                                                                        |
| Rain Backup            | <b>Hike:</b> Slides and Scopes at Lodge and Fir<br><b>Redwood Survival Game:</b> Lodge                                                                                                 |

### 3rd GRADE PROGRAM – Local History

RNSP preserves the living legacy of human relationships with this area including the 19<sup>th</sup> & 20<sup>th</sup> century conservation efforts which has led to protecting diminishing redwood forests and expanding environmental awareness into the 21<sup>st</sup> century.

#### California's Next Generation Science Standards: Grade Three

3-5-ETS1 Engineering Design-

3-5-ETS1-1 People's needs and wants change over time, as do their demands for new and improved technologies

#### Common Core State Standards Connections: Grade Three

ELA/Literacy-

W.5.8 Recall relevant information from experiences or gather relevant information from print and digital sources; summarize or paraphrase information in notes and finished work, and provide a list of sources.

Focus: Del Norte County History, Resources, Conservation

| Time                   |                                                                                                                                                                  |
|------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 9:00 a.m.<br>Arrival   | <b>Welcome / Rules and Expectations on Bus</b><br>*Del Norte County History Review<br>*Westward Expansion Resource Map                                           |
| 9:15-10:15 a.m.        | <b>Explorers (1828)</b><br>*Jed Smith is gone, but some of their names remain. Learn why they came to Del Norte<br>*Restroom break                               |
| 10:15-10:45 a.m.       | <b>Gold Miners (1849)</b><br>*Del Norte County has gold! A history of gold mining in Del Norte and the effect it had on the area.<br>*Restroom Break/Stump Climb |
| 11:00-11:30 a.m.       | <b>Loggers (late 1800s-early 1900s)</b><br>*Learn about the history of logging in Del Norte county and its impact on Redwood National and State Parks.           |
| 11:30-12:00 p.m.       | <b>LUNCH</b> (outdoor eating manners)                                                                                                                            |
| 12:00-12:45 p.m.       | <b>STATIONS</b> (2, 20 min. each)<br>A. Gold panning activity<br>B. Pioneer games                                                                                |
| 12:45-1:15 p.m.        | <b>Hike Out</b><br>*Future Tree (You power the future tree)<br>*Conclusion                                                                                       |
| 1:15 p.m.<br>Departure | <b>BUS AWAY</b>                                                                                                                                                  |
| Rain Back-up           | <b>Miner and Logger Programs:</b> Cabins<br><b>Pioneer Games:</b> Lodge<br><b>Gold Panning:</b> Lunch Area                                                       |

## 4<sup>th</sup> GRADE PROGRAM- Watersheds

*The ancient coast redwood ecosystem preserved in Redwood National and State Parks protects some of the world's most majestic forests and is home to an interrelated biotic community. The coast redwood, a species that has produced some of the world's tallest individual trees, is well adapted to the environmental conditions of its range.*

### California's Next Generation Science Standards: Grade Four

**ESS3.A: Natural Resources:** Energy and fuels that humans use are derived from natural sources, and their use affects the environment in multiple ways. Some resources are renewable over time, and others are not. (4-ESS3-1)

### Common Core State Standards Connections: Grade Four

**W.4.7** Conduct short research projects that build knowledge through investigation of different aspects of a topic. (4-ESS1-1)

Focus: Data Collection, Watersheds, Salmon

|                  |                                                                                                                                                   |
|------------------|---------------------------------------------------------------------------------------------------------------------------------------------------|
| 9:00 a.m.        | <b>Welcome / Rules and Expectations</b>                                                                                                           |
| 9:10-9:50 a.m.   | <b>Unpack /Site Tour/Cabin Assignments</b>                                                                                                        |
| 9:50-10:00 a.m.  | <b>Program overview</b>                                                                                                                           |
| 10:00-10:50 a.m. | <b>Scientists in Training</b><br>*What do Scientists do?<br>*Forest & Stream data collection lesson<br>*Trail Safety/Bathrooms Use/Food and Water |
| 10:50-11:00 a.m. | <b>Restroom Break</b>                                                                                                                             |
| 11:00 a.m.       | <b>Mill Creek Hike</b> (4.5 miles hike)<br>*Safety/Trail Etiquette review at trailhead<br>*Measure second growth tree/measure Lorax               |
| 11:45-12:00 p.m. | <b>Old Growth versus 2<sup>nd</sup> Growth</b> (Lorax)<br>*Murrelet message                                                                       |
| 12:00-12:20 p.m. | <b>Lunch at Lorax</b>                                                                                                                             |
| 12:20-1:00 p.m.  | <b>Hike Continued</b> (Mill creek last stop)<br>*Break at Mill Creek                                                                              |
| 1:00-1:15 p.m.   | <b>Mill Creek Stream Study</b> (Stop 1)<br>*Water flow and height                                                                                 |
| 1:15-1:30        | <b>Quiet Walk</b>                                                                                                                                 |
| 1:30-2:00        | <b>Mill Creek Stream Study</b> (Stop 2)<br>*O <sub>2</sub> , PH, Temperature                                                                      |

|                     |                                                                                                                                                                 |
|---------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 2:00-2:30 p.m.      | <b>Redwood Riddles</b>                                                                                                                                          |
| 2:30-3:00 p.m.      | <b>Bus Returns to HHOS</b><br>*Students spend the night at Howland Hill Outdoor School                                                                          |
| <b>Day 2</b>        | <b>DAY 2</b>                                                                                                                                                    |
| 9:00                | <b>Arrival</b><br>*Review of Day 1                                                                                                                              |
| 10:00-11:00 a.m.    | <b>Build a watershed</b><br>*What is a watershed?<br>*Build Watershed (4 groups)<br>*Effects (Rain): Logging, Pollution, Tsunami, Earthquake<br>*Restroom break |
| 11:00-11:45 a.m.    | <b>Lunch</b><br>*Final Inspection/Clean up                                                                                                                      |
| 11:45-12:00 p.m.    | <b>Salmon Lesson</b><br>*Learn about Salmon and Anadromous Fish                                                                                                 |
| 12:00-12:45 p.m.    | <b>Salmon survival game</b><br>*Includes Salmon lesson                                                                                                          |
| 12:45-1:00 p.m.     | <b>Conclusion</b>                                                                                                                                               |
| 1:15 p.m.           | <b>Departure</b>                                                                                                                                                |
| <b>Rain Back-up</b> | <b>Hike:</b> Do data collection around HHOS<br><b>Redwood Riddle:</b> Cabins<br><b>Salmon Survival Game:</b> Lodge (1 obstacle at a time)                       |



## Overnighting Groups' Chores

When planning an overnight visit and dividing the group up for various activities, don't forget chores! Designating your chore groups in advance will ensure that the necessary tasks get carried out quickly and efficiently. Here are the general chore categories:

### DAY 1

#### **Dinner Prep**

Set tables, set up food and drink stations. **No students allowed in the kitchen to prep, cook or serve!**

#### **Fire Crew**

Gather firewood from woodshed, assist adult with setting up campfire, ensure fire is completely out after use. **Students cannot use axes or matches/lighters.**

#### **Dinner Clean-up**

Oversee after-meal recycling, scraping of dirty dishes, deliver dirty dishes to kitchen; wash, rinse, disinfect dishes according to directions; clean tables and ground around eating area; use designated tools (red-topped handles) to sweep kitchen floor and porch (mop after last meal on Day2); take kitchen garbage to outside bear-proof garbage cans, filling them in numerical order; replace bags on indoor cans.

### DAY 2

#### **Breakfast Prep**

{See dinner prep above.}

#### **Breakfast Clean-up** {See dinner clean-up above.}

#### **Grounds**

Pick up all litter and put into the bear-proof garbage cans. Pay particular attention to meadow and fire pit areas.

**Bathroom Clean-up** (usually supervised by a ranger) Take all trash bags to outside cans; replace bags; wipe sinks; brush out toilets; use designated tools (**yellow-topped handles**) to sweep and then mop floors and sweep exterior cement pads; replenish toilet paper and paper towels if needed.

#### **Cabin Clean-up**

Pick up all litter in- and outside cabins; return sleeping pads to kitchen area; sweep platforms, floor, and porch, put all sweepings in provided bags and take to the bear-proof trash cans; close doors and windows; report any damage and any lost/found items to the Lead Ranger. Help load all belongings into gear vehicle/trailer.





# HHOS KITCHEN

## Standard Operating Procedures (SOPs)

It is the goal of this facility to provide you with the safest kitchen possible. The regulations below are based on both the National and California State Health Standards; all kitchen users must follow these procedures, or will be asked to leave.

- ❖ One person from each group must be assigned to lead the kitchen crews. Please let the ranger know what you are planning to cook for meals.
- ❖ No children are allowed in the kitchen to prepare meals.
- ❖ All who enter the kitchen must wash their hands first at the hand-washing sink. If you touch your face at any time (even if it is just to scratch), wash your hands again.
- ❖ Hair must be gathered back; wear an apron to keep you and the food clean.
- ❖
- ❖ After each food is prepared, wash cutting blocks, tools, and counters with the provided bleach solution, and re-wash hands at the hand-washing sink. The food prep sink is only for food prep.
- ❖ If you are not sure that the tool you want to use is clean, wash it before you use it.
- ❖ Use plastic food handling gloves to serve food, or thoroughly wash hands.
- ❖ If it boils over, clean it up! If any food touches the ground, throw it away!
- ❖ If any tool touches the ground, get a clean one and wash the old one.
- ❖ The roll-up windows must be open while the stove is in use.
- ❖ Keep paths clear at all times. Fold down empty boxes and take out of the kitchen to the recycle area.
- ❖ Coolers must be kept at 41°F (5°C) for cold food storage, and stored beneath table or neatly stacked.
- ❖ If the food is hot keep it that way. Instant-read thermometers are provided. A hot food warmer is provided to keep hot food at the required internal temperature of 135°F (57°C). You may also serve directly from the stove.
- ❖ No meals can be eaten in the kitchen. If you must sample something while cooking, use a clean spoon and put it into the dirty dish tray immediately after each taste.
- ❖ All meals must be planned for preparation on-site and served family- or buffet-style, except for special dietary situations. NO pot-luck meals
- ❖ **No cooked leftovers can be re-served! Leftovers must be thrown away.**
- ❖ Follow clean-up procedures (posted in kitchen) after every meal.

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# APPENDICES...

- **Emergency Procedures**

- The Howland Hill Outdoor School Pledge

- Marbled Murrelet Coloring Sheet

- "Park Aide" Parent/Counselor Guide

This brochure is also available online:

<http://www.nps.gov/redw/forteachers/howland-hill-outdoor-school.htm>

- Maps:

Getting There

North Area Topographic

HHOS Area

Camp Facilities

- Bear, Mountain Lion information
- Clivus Environmental Waste Station information
- Coast Redwoods / Save the Redwoods League

# Emergency Procedures for HHOS

1. For any life-threatening emergency, call **9-1-1** directly.

For a **Law Enforcement Ranger**, call **Northern Communications: 1-916-358-1300**. Request the dispatcher for Redwood National and State Parks, identify yourself, and request that a ranger be sent to HHOS. Follow the instructions of the dispatcher.

2. Notify the Education Specialist as soon as possible of **any** incident: **(707) 465-7391**.
3. All groups **MUST** provide one private vehicle on- site for emergency transportation.
4. The gate on Howland Hill road is locked after dark. Any group member needing to get in or out must contact the group leader, who will have a gate key.
  - \* **Note:** Any vehicle blocking the entrance gate, or the road between the gate and the school site, can towed away at the owner's expense.

## EMERGENCY DIRECTIONS

\* **Sutter Coast Hospital:** approximately 5 miles (15 min.) from HHOS.

- From gate, turn **left** onto Howland Hill Road,
  - At the store/stop sign, turn **left** onto Elk Valley Road,
  - At the traffic signal, turn **right** onto Highway 101 and proceed through Town, through three lights),
  - Bear **right** onto Parkway Drive (follow the hospital signs),
  - Past the Highway Patrol office, turn **left** onto Washington Boulevard.
- The hospital is ½ mile on the right, past Wal-Mart and Ace Hardware.

\* **Pay phone:** approximately one mile from the gate on Howland Hill Road. From gate, turn **left** onto Howland Hill Road. Proceed down the hill to the phone by the front door of the Elk Valley Casino.



**In an emergency, all students and adults not directly involved with the incident will assemble in the kitchen area.**

**If the accident is in the kitchen, group assembly will be at the campfire circle.**

**All should sit and wait quietly for further information and instructions from the teacher or ranger.**



## The Howland Hill Outdoor School Pledge

When I am in the parks,  
I will do no physical harm  
to any living or nonliving thing.  
This includes all the plants, animals,  
buildings, trails,  
and people.

I will gladly do all my assignments  
to the best of my ability.

I will keep our cabin clean,  
and respect the privacy of others.

I will do my part to make our outing  
a safe and happy one.

Name: \_\_\_\_\_



# *Bird on the Brink, You are the Link!*



Can you find the baby chick? Its parents take turn bringing food to it from the ocean. The chick is a marbled murrelet. The other birds are called Steller's jays. How many jays do you see in the picture? Jays will eat just about anything that can be eaten in the forest. Did you see the food on the picnic table? This campsite has not been cleaned up! The jays are staying around to get more food. They could find the chick! If that happens, the jays will eat the chick. You can help the murrelets by helping your parents clean up after eating in the forest. Remember to never feed any wild animal in the parks including birds. Thank you!

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***For resource protection and individual safety, all Redwood National and State Parks regulations apply at Howland Hill Outdoor School. The following rules in particular must be followed:***

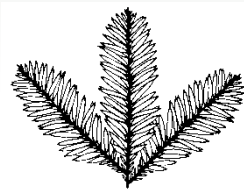
- *Collection of natural plant materials is allowed only with permission of the site Ranger, and for study purposes only.*
- *All wildlife will be respected. Animals such as snakes, spiders, slugs and bugs can be collected and studied during educational activities, but then returned to where they were found.*
- *Unless specifically designated, park trails and facilities are closed to pets. Exceptions are made for certified assistance animals.*
- *The marbled murrelet, a small seabird needing large ancient forest trees to nest in for survival, is a federally identified endangered species. Research has shown that corvids (jays, crows, and ravens) are the murrelet's primary predators. Efforts to prevent corvids from "hanging out" at HHOS, include paying special attention to reducing food litter.*

***PLEASE HELP by not feeding any park wildlife, and by picking up and properly disposing of any litter you may find, including the smallest food scraps.***



### Redwood National and State Parks Common Mission:

To preserve and make available to all people, for their inspiration, enjoyment, and education: the ancient forests, scenic coastlines, prairies, streams, and their associated natural and cultural values, which define this World Heritage Site; and to help people forge emotional, intellectual, and recreational ties to these parks.



Howland Hill Outdoor School is dedicated to educational purposes tied to protection of natural and cultural resources in Redwood National and State Parks, to approved school curriculums, and to National Education Standards. Unfortunately, it cannot accommodate private family reunions, weddings, or other unrelated uses.

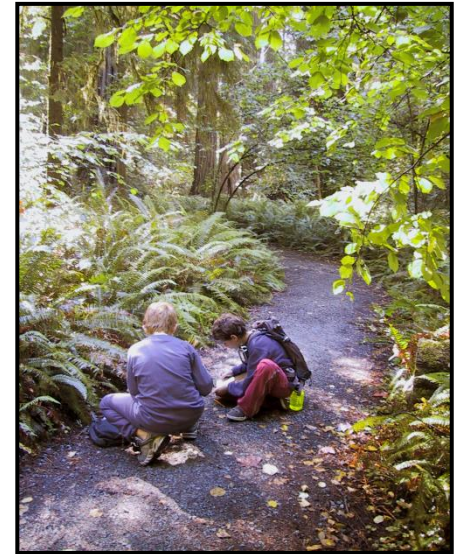


Redwood National and State Parks  
1111 Second St.  
Crescent City, CA 5531

Lynda Mealue, Education Specialist  
Phone: 707-465-7391  
Fax: 707-465-1571  
E-mail: [lynda\\_mealue@nps.gov](mailto:lynda_mealue@nps.gov)

Welcome to  
Redwood National and State Parks'

## Howland Hill Outdoor School



Thank you for taking valuable time to serve as a "Ranger Aide," helping create a positive learning environment at Howland Hill Outdoor School (HHOS). This orientation pamphlet outlines your responsibilities, Ranger expectations, and facility use policies/requirements. Feel free to ask the site Ranger if you have any questions or concerns.



Explore, Learn, Protect

# Welcome



**All students deserve equal opportunities for safe, fun, and non-threatening outdoor educational experiences.**

We need and appreciate your help to make these opportunities happen.

- Safety is essential; thank you for keeping it first in mind.
- Please participate in all activities. Talking with other parents during a program is a distraction to the instructor, and detrimental to students' learning.
- **No smoking is allowed in students' presence at any time.** Smoking on site is permitted only on the entrance road by the campfire ring, or in the smokers' private vehicle.
- Very young siblings of students should be left with caregivers at home. If this is not possible, please understand that you assume full responsibility of assuring the child does not interfere with planned student curriculum and is safe from all hazards.

## SAFETY INFO

- ✧ There will be no throwing of rocks, cones, sticks, etc., and no use of open-bladed knives other than for food prep.
- ✧ Running is permitted only during supervised games in the meadow; HHOS' gravel "hallways" are walk-only!
- ✧ Students will not be alone or out-of-sight at any time, or alone with any adult other than their teacher or relative.
- ✧ The First Aid kit is located inside the kitchen building, to the left of the door

## "SURVIVAL" TIPS

- Please help the programs stay on schedule by paying attention and by assisting the ranger when asked to.
- All students must use the toilet facilities on site. During longer hikes/field studies, field sanitation techniques will be discussed in advance and followed by all.
- Don't be afraid to say "I don't know" in response to student questions. Guide students to those who might know, or find out later and personally get back to them!
- You are the grown-up, not one of the students! Kidding around with students can be easily misunderstood. If you are asked to lead a group, make sure students know your name and lead by positive example.
- Some student discipline may occasionally be necessary, but demeaning punishment, whether physical or verbal, is never appropriate. Difficult students or continued disruptive behavior should be brought to the attention of the teacher or Lead Ranger.



## FACILITY NOTES

- **The gate on Howland Hill Rd. MUST be kept closed at all times.** If you are the driving the tail car in a caravan, arriving late, or leaving early, you **MUST** close the gate behind you. The teacher is given a gate key for security of overnight groups.
- **Parking:** To preserve the open space on site we ask that all private cars, with the exception of those identified by the teacher for transport or emergency use, be parked in the main lot, less than 1/4 mile from the school.
- HHOS is "off-the-grid". All kitchen appliances and all facility lights are propane-powered; water is gravity-fed into camp from a hill-top well with a propane pump; security features are solar-powered. Please help conserve water and gas usage. Use of propane utilities is prohibited without prior ranger instruction.
- The bear-proof garbage cans must be used to avoid unnaturally attracting any type of wild animal into camp.



## CRITTERS..... OH MY!

- Large animals are rarely seen at HHOS primarily because there is no natural water source (and usually too many people!). Report any unusual wildlife sightings to the Lead Ranger.
- Redwood National and State Parks are home to many wonderful animals; be grateful for any opportunity to safely observe the residents!

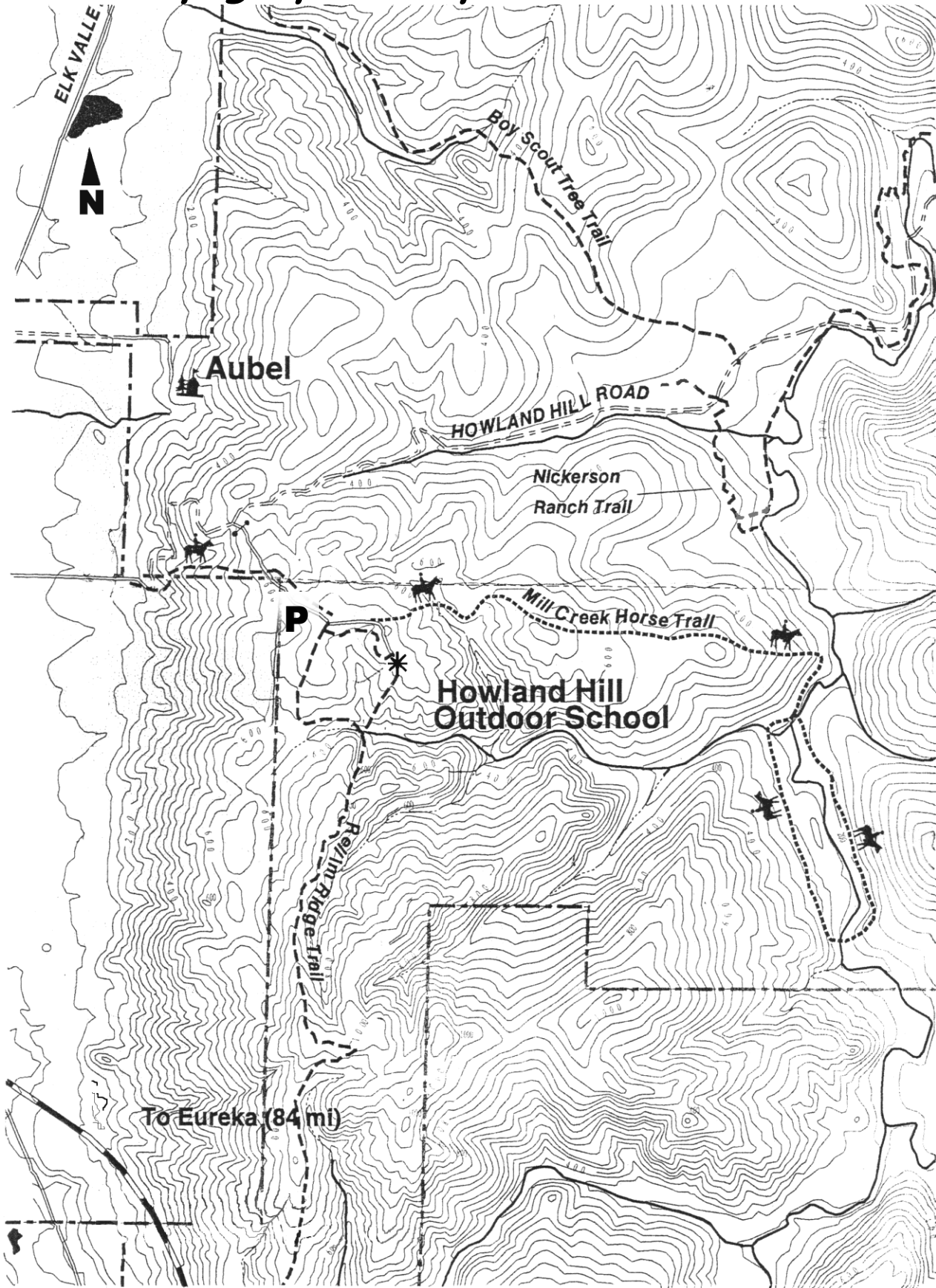


# Getting There

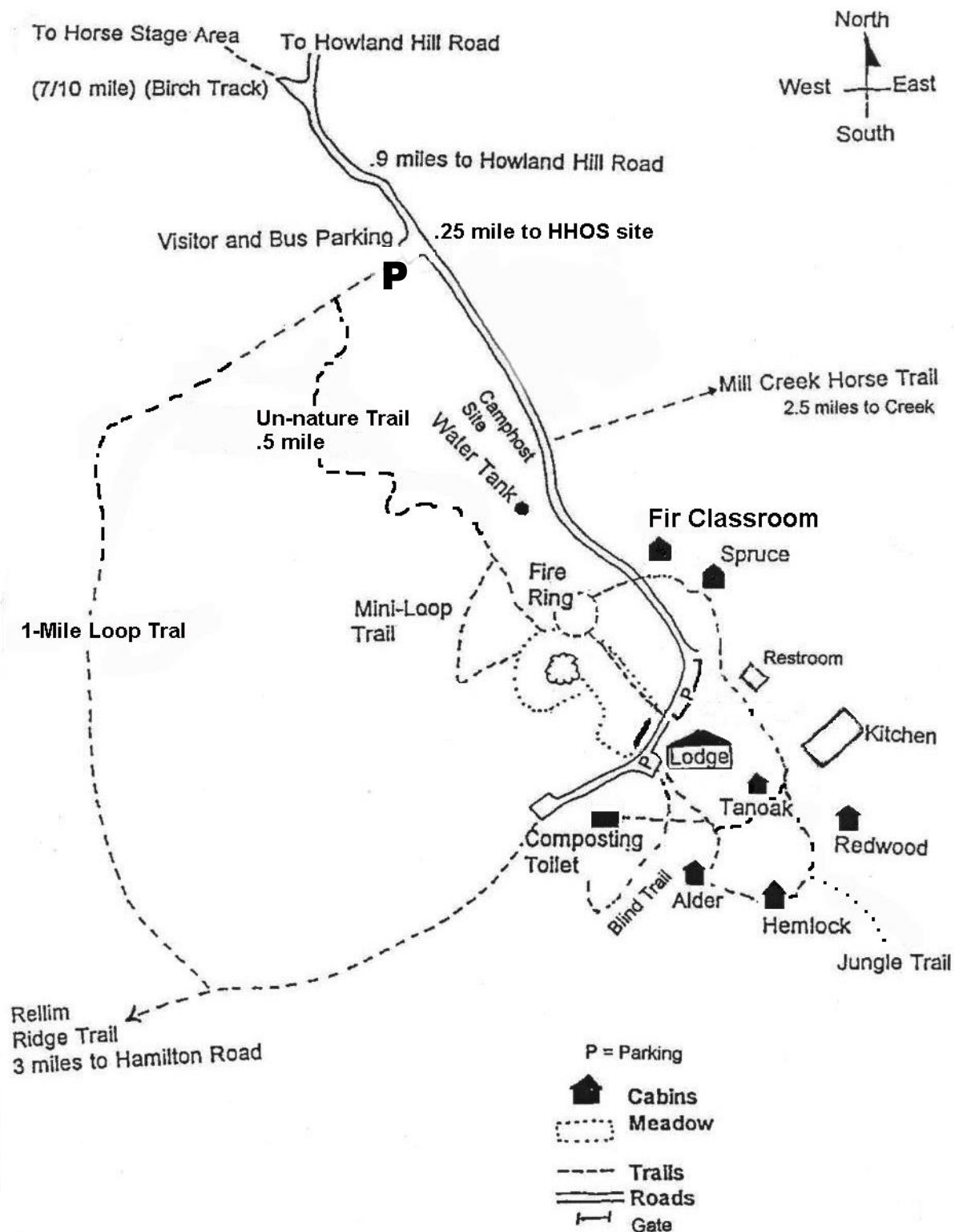




# HHOS Topographic Map



# HHOS Area Map



# HHOS Camp Facilities Map



# *The Bear Facts!*



## **Black Bear (*Ursus americanus*)**

- \* Store ALL food in the trunk of your vehicle or the HHOS kitchen.
- \* Put food away and clean area immediately after cooking and eating.
- \* Do not feed bears (or any other creatures!)
- \* Do not litter!
- \* Discard waste and garbage in bear-proof trash cans as soon as possible after preparing and/or eating meals. (Everyone is responsible for his or her own trash.)
- \* Do not overfill bear-proof trash cans. If it doesn't fit safely inside cans, take it with you.
- \* If a bear should wander by, discourage it by making a lot of noise!
- \* Keep in mind that gum, toothpaste deodorant, etc. can attract bears. Leave them at home or keep these items away from critters. Toiletries should be in a labeled zip-lock bag.

## **Don't Be Responsible For A Dead Bear!**



## ***Store Food and Dispose of Garbage Properly***

*Violators will be issued a citation under  
36 CFR 2.10(d) Redwood National and State Parks*

# Mountain Lions in the Redwood Parks



Mountain lions (cougars) roam throughout Redwood National and State Parks. Although they have been spotted in picnic areas and along trails and roads, your chance of seeing one of these secretive animals is rare.

Mountain lions can be distinguished from bobcats by tail length; lion tail length is at least three-quarters the length of the body. Bobcat tails are much shorter relative to body length.

Any lion sighting should be reported to a ranger immediately. Although mountain lions have been known to attack people and pets, the likelihood of encountering an aggressive lion is very remote.

Nonetheless, it is wise to be prepared. Avoid hiking alone. Watch children closely. Do not let them run ahead of you on the trail. Hikers in particular are encouraged to read the tips on this sheet carefully. Following these tips will allow both you and the mountain lions to coexist in the parks.

The reclusive behavior of mountain lions and their tendency to live in remote areas explain why we know relatively little about these graceful cats. They once ranged from northern Canada through South America and from coast to coast; their range is now much reduced. No other land mammal in this hemisphere had a more extensive range. Primarily due to hunting and loss of habitat, mountain lions have been largely creatures of the West (in North America) since the 1920s.

The mountain lion is, for many, the quintessential symbol of wilderness: a large animal ranging freely in wild areas, independent of human interference. As the largest carnivore in the North Coast redwood parks, they are at the top of the food chain and therefore are an indicator of this ecosystem's health. In addition, they play an important role in maintaining balance within the ecosystem.

As you visit lion habitat, it is important that you understand the behaviors that these cats use to survive. You can then act accordingly to protect yourself and these animals in their native habitat.

## Safety Tips:

Do not run. Mountain lions may chase things that run because they associate running with prey.

Do not crouch down; try to appear as large as possible. Attempts to hide may be unsuccessful; mountain lions see most people long before people spot them.

Hold your ground or move away slowly while facing the lion.

If you have little children with you, pick them up.

If the lion behaves aggressively, wave your hands, shout, and throw sticks at it.

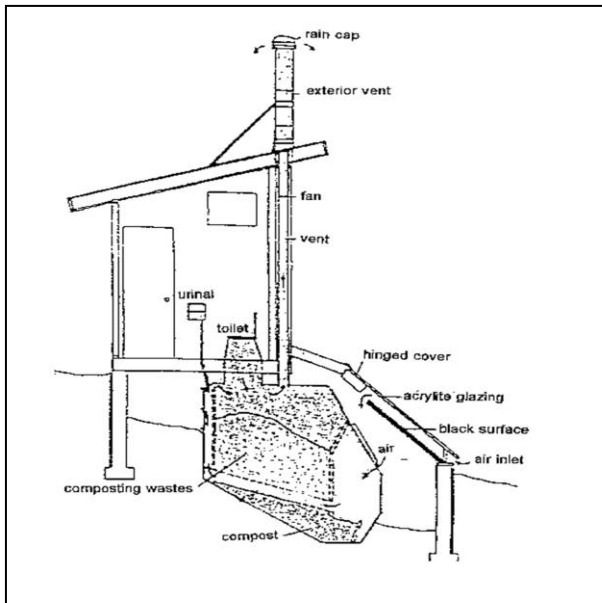
If attacked, **FIGHT BACK.**

\*\*\*

Report any lion sightings to a ranger immediately. Call 707-464-6101, or stop by a park information center in Hiouchi, Crescent City, or Orick.



# *The Clivus Toilet*



The Clivus Multrum environmental waste station is a composting toilet that turns human waste into an odorless material that can be used as fertilizer. The process combines waste with organic material (added sawdust), and heat (from the sun, collected in the sloping structure at the rear of the building), and air.



*Clivus Multrum toilets, front view*

The Clivus is used when groups are studying in the meadow, so students will not have to use the more distant “regular” toilets.

## **Some very important concerns:**

1. Only human waste and toilet paper are to go into the toilet. No food scraps! Personal hygiene items must go into the bear-proof garbage cans.
2. The lid to the toilet must be closed before exiting the restroom. Closing the lid enables the proper airflow to help compost the waste, and also helps keeps smells to a minimum.



# COAST REDWOOD

## (*Sequoia sempervirens*)

California's magnificent Coast Redwood is the world's tallest known tree and one of the world's oldest trees. Average mature trees, several hundred years old, stand from 200 to 240 feet tall and have diameters of 10 to 15 feet, and some trees have been measured at more than 360 feet. In the most favorable parts of their range, Coast Redwoods can live more than two thousand years.

Redwoods are named for the color of their bark and heartwood. The high tannin content of the wood gives the trees remarkable resistance to fungus diseases and insect infestations. The thick, fibrous bark has an even higher tannin content, and insulates them from the periodic fires which have occurred naturally down through the centuries in the Redwood region.

These immense trees have delicate foliage. Narrow, sharp-pointed needles only one-half to three-quarters of an inch long grow flat along their stems, forming feathery sprays. Redwood cones are about an inch long and each cone contains 14 to 24 tiny seeds—a pound of Redwood seeds would number more than a hundred thousand. Redwood seedlings grow rapidly, more than a foot per year in good conditions. Young trees also sprout from their parent's roots, taking advantage of the established root system.

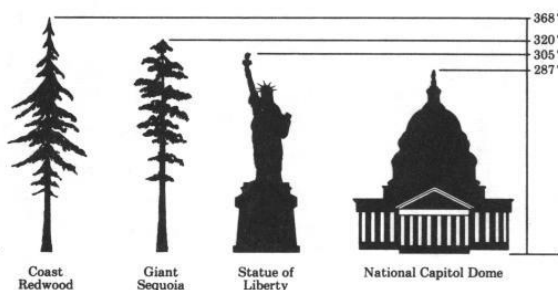
Coast Redwoods form almost pure stands in some areas—especially on flat, silt-covered river plains—but they are also found in mixed evergreen forest with the majestic Douglas-fir, as well as western hemlock, grand fir, and Sitka spruce. On drier slopes tan oak, madrone, maple, and California bay laurel grow along with the evergreens. Rhododendrons and a variety of ferns are the most common understory plants. Other plants which flourish under the trees in the duff of fallen needles include poison oak, huckleberry, hazel, and many flowering herbs.

Mammals found in the Redwood forest include the ubiquitous raccoons and skunks, black bears, Roosevelt elk, deer, squirrels, porcupines, weasels, mink, and the rare ringtail cats. Among the birds found here are the marbled murrelet and the northern spotted owl, both of which nest almost exclusively in old-growth Redwood and Douglas-fir forest. Many visitors in the Redwoods notice a common mollusc, the yellow banana slug.

It is generally believed that the last ice age limited the Coast Redwoods to their present range, a narrow 450-mile strip along the Pacific Ocean from central California to southern Oregon. In the Redwood belt, temperatures are moderate year-round, and heavy winter rains and dense summer fog provide the trees with the water they need.



It is hoped, their own natural endurance will enable them to flourish as they have for thousands of years past.



This climate was far more common in earlier eras. Paleobotanists have discovered fossil Redwoods throughout what is now the western United States and Canada, and along the coasts of Europe and Asia. Some of these fossils are as much as 160 million years old. Redwoods are relatively recent arrivals in their current region; the earliest fossil record in California is found in rocks less than 20 million years old.

A natural Coast Redwood forest is a perfect recycling system. The soil (like that in any high-rainfall climate) contains few nutrients; most of the substance necessary for life is in the trees themselves, living and dead, and in the other plants and animals of the forest. If trees are removed from the forest instead of being allowed to die and decay naturally, many nutrients are lost from the cycle.

Landscape architect Frederick Law Olmsted Jr. once said, "This generation has received, as a free inheritance from past ages, a hoard of forest wealth. But if any of the future generations for thousands of years to come are to have the opportunity of enjoying the spiritual values obtainable from such primeval forests, this generation must exercise the economic self-restraint necessary for passing on some portion of this inheritance, instead of 'cashing-in' on all of it." Since 1918 the Save-the-Redwoods League has worked to preserve the great Coast Redwood forests for future generations by purchasing Redwood lands for the California Redwood State Parks and Redwood National Park. When these parks are complete, the Redwoods will be protected from man-made dangers. From that time on,





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